

IN THE CLAIMS

Kindly cancel claims 6, 15, 23-24, 28, 35-41, 43, 46, 48 without prejudice and amend present claims 1, 3, 5, 7-14, 16-22, 25-27, 29-34, 37-42, 44-45, 47, 49, 51-58 and 60 as follows:

1. (Amended) Multi-element impedance probe apparatus, adapted to produce an image of a body tissue, having a structure, comprising:

a raster of sensors, comprised of a substantially radiolucent, conductive material;

substantially radiolucent conductive wiring, forming conductive connections with the sensors; and

a substantially radiolucent substrate, on which the sensors are mounted; and

a non-radiolucent aligning feature.

2. (original) Apparatus according to claim 1, comprising two impedance probes which operate in tandem, one acting as an electrifying source and the other as a sensor.

3. (Amended) Apparatus according to claim 1 ~~or claim 2~~, and including a conductive layered structure, covering the ~~surface of the probe~~ surface of the raster of the sensors and suitable for providing an interface between the ~~probe~~ sensors and the tissue.

4. (original) Apparatus according to claim 3, wherein the structure comprises a material having conductivity substantially similar to the conductivity of the tissue.

5. (Amended) Apparatus according to claim 3 ~~or claim 4~~, wherein the structure is radiolucent.

6. (cancelled)

7. (Amended) Apparatus according to claim 16, wherein the aligning feature comprises at least one alignment mark that is opaque to x-rays.

8. (Amended) Apparatus according to claim 16 ~~or claim 7~~, wherein the aligning feature comprises at least one alignment mark that emits γ rays.

9. (Amended) Apparatus according to claim 1 ~~any of claims 6-8~~, wherein the aligning feature comprises at least one alignment mark that emits pairs of positrons.
10. (Amended) Apparatus according to ~~any of claims 1-6-9~~, wherein the aligning feature comprises at least two lines, a substantial distance apart with respect to the size of the impedance probe.
11. (Amended) Apparatus according to ~~any of claim 1-6-10~~, wherein the aligning feature comprises at least two intersections, a substantial distance apart with respect to the size of the impedance probe.
12. (Amended) Apparatus according to ~~any of claims 1-6-11~~, wherein the aligning feature comprises an outline of the probe painted on a surface against which the impedance probe is positioned.
13. (Amended) Apparatus according to ~~any of claim 1-6-12~~, wherein the aligning feature comprises a detachable mount to which the impedance probe is attached during operation thereof.
14. (Amended) Apparatus for tissue examination comprising:
an impedance imager comprising at least one impedance probe with a first field of view and adapted to produce an impedance image of a body tissue, referenced to a reference indicator;
and
at least one additional imager of a nuclear imaging ~~modality different from impedance imaging~~, having a second field of view, at least partially common to the first field of view, and adapted to produce an image of body tissue, referenced to the reference indicator.
15. (cancelled)
16. (Amended) Apparatus according to ~~claim 14 or claim 15~~, wherein the reference indicator is comprised in a structure that provides positioning of at least one of the imagers.
17. (Amended) Apparatus according to ~~any of claims 14-16~~, wherein the impedance imager and the at least one additional imager form an integral unit.

18. (Amended) Apparatus according to ~~any of claims 14-16~~, wherein:

the impedance imager is a first module; and
each additional imager is an additional module,
wherein the modules may be used independently or together.

19. (Amended) Apparatus according to ~~any of claims 14-18~~ and including a processing unit common to the impedance imager and the at least one additional imager for processing the images.

20. (Amended) Apparatus according to ~~any of claims 14-19~~ and including a display unit common to the impedance imager and the at least one additional imager, wherein the display unit is operative to selectively display each image individually or the images superimposed.

21. (Amended) Apparatus according to ~~any of claims 14-20~~ and including a control panel common to the impedance imager and the at least one additional imager.

22. (Amended) Apparatus according to ~~any of claims 14-21~~ and including a biopsy device, adapted to perform biopsy on the tissue.

23-24. (cancelled)

25. (Amended) Apparatus for x-ray mammography and impedance imaging, comprising:

an x-ray tube, which produces a beam of x-rays;
a support plate, adapted to support a soft body tissue when it is irradiated by the x-ray tube;
an x-ray image receptor, associated with the support plate and adapted to produce an x-ray image of the tissue, referenced to a reference indicator;
an impedance imager, comprising at least one impedance probe, located between the x-ray tube and the x-ray image receptor, having a field of view that is at least partially common to a field of view of the x-ray tube and adapted to produce an image of body tissue, referenced to the reference indicator, and

an impedance imager receptor adapted to receive the impedance imager in a manner which allows the impedance probe to be removed, while the soft body tissue remains substantially in place.

26. (Amended) Apparatus according to claim ~~25~~₄, ~~or claim 25~~ and including a compression plate, adapted to travel between the x-ray tube and the support plate and to provide compression against the tissue.

27. (Amended) Apparatus according to ~~any of claims 25-26~~, wherein the at least one impedance probe is comprised in the compression plate.

28. (cancelled)

29. (Amended) Apparatus according to claim ~~27~~₁, ~~or claim 28~~ and including a gamma camera, having a field of view that is at least partially common to a field of view of the at least one impedance probe, wherein the gamma camera is adapted to produce a gamma-ray image of the tissue, referenced to the reference indicator.

30. (Amended) Apparatus according to ~~any of claims 14-22~~, wherein the at least one additional imager comprises a gamma camera.

31. (Amended) Apparatus according to ~~claim 29~~_{or claim 30}, wherein the at least one impedance probe is attached to the gamma camera with a fixed mechanical attachment, in a field of view of the gamma camera, at a specific distance from the gamma camera.

32. (Amended) Apparatus according to ~~any of claims 14-22~~, wherein the at least one additional imager comprises a SPECT imager.

33. (Amended) Apparatus according to ~~any of claims 14-22~~, wherein the at least one additional imager comprises a PET imager.

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34. (Amended) Apparatus according to ~~any of the preceding claim 14s~~, wherein the tissue is human tissue.

35-41. (cancelled)

42. (withdrawn) A method of imaging a body tissue by an impedance imager and by an additional imager of a modality different from impedance imaging, comprising:

positioning an impedance probe of an impedance imager so that at least a portion of a field of view of the impedance probe is common with at least a portion of a field of view of the additional imager;

acquiring an impedance image, referenced to a reference indicator; and

acquiring an image of the additional imager, referenced to the reference indicator.

wherein the impedance probe is removed before acquiring the image of the additional imager.

43. (cancelled)

44. (withdrawn) A method according to claim 42 ~~or claim 43~~, wherein positioning comprises attaching to a structure of the additional imager.

45. (withdrawn) A method according to claim 42 ~~or claim 43~~, wherein positioning comprises attaching to the body tissue.

46. (cancelled)

47. (withdrawn) A method according to claim 46, wherein ~~removing comprises the impedance probe is removed~~ by sliding, without substantially moving or disturbing the tissue.

48. (cancelled)

49. (withdrawn) A method according to ~~any of claims 42-48~~, wherein acquiring an image of the additional imager comprises acquiring an x-ray image.

50. (withdrawn) A method according to claim 49, wherein acquiring an image of the additional imager comprises acquiring a mammography image.

51. (withdrawn) A method according to ~~any of claims 42-48~~, wherein acquiring an image of the additional imager comprises acquiring an x-ray CT image.

52. (withdrawn) A method of imaging in accordance with ~~any of claims 42-51~~ and including administering a dual-purpose contrast agent, effective for enhancing the contrast of a desired feature both on the x-ray image and on the impedance image.

53. (withdrawn) A method according to ~~any of claims 42-48~~, wherein acquiring an image of the additional imager comprises acquiring a SPECT image.

54. (withdrawn) A method according to ~~any of claims 42-48~~, wherein acquiring an image of the additional imager comprises acquiring a PET image.

55. (withdrawn) A method according to ~~any of claims 42-54~~ and including acquiring a gamma-ray image, referenced to the reference indicator.

56. (withdrawn) A method according to ~~any of claims 42-48~~, wherein acquiring an image of the additional imager comprises acquiring a gamma-ray image.

57. (withdrawn) A method of imaging in accordance with claim 42 ~~any of claims 42-56~~ and including administering a contrast agent, ~~which is a composition of matter in accordance with any of claims 35-41.~~

58. (withdrawn) A method according to ~~any of claims 42-57~~ and including performing a biopsy on the tissue utilizing a biopsy needle.

59. (withdrawn) A method according to claim 58, wherein the biopsy needle is an impedance-guided biopsy needle.

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60. (withdrawn) A method according to claim 58-~~or claim 59~~ wherein the biopsy is performed under guidance of impedance images acquired during insertion and positioning of the biopsy needle.